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Analysis of the effectiveness of test techniques in the assessment and evaluation of perceptual and comprehension skills in Anatolian Fine Arts High School art workshops

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Abstract

The purpose of this study is to mention the contribution of test techniques supported by visuals to artistic learning at Anatolian Fine Arts High School's art workshops and classes, and offer an opinion about the evaluation and organization of their perception in those classes and workshops. The study group includes ten grade students ($f=25$) studying at a fine arts high school painting department. The data were gathered via art tests that were structured with visuals and students' semi-structured evaluation forms by which they evaluate art tests. Art tests in the study were structured with visuals that help students to analyze visual qualities, art discourse, differences, and style. At the end of the study, in art workshop classes it is determined that art tests can form a qualitative accumulation in discovering artistic qualities, features, and details.

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Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).*Keywords:* Visual Art Education, Assessment and Evaluation, Art Test

1. Introduction

Evaluation of the student in art education starts in 1960's, those were the years when art became a subject area in teaching programs and education in art gained importance (Kırıçoğlu 2009). Previously, art educators insisted on not evaluating children's pictures depending on Lowenfeld's philosophy (Sabol 2004). They had put forward just the relation between art learning and ability. Also, they keep art and education apart from each other with free expression rhetoric (Kırıçoğlu 2009). However, in 1956, Bloom's classification of behavior areas, and in 1960's stating the inter-disciplinary approaches in art education (art history, art criticism, aesthetic and application) has paved the way for Wilson's categorization basic behavior areas that can be learned in art. Behaviors named as Knowledge, perception, comprehension (analysis and evaluation) product, creativity, setting value, product –skill were enlarged in 1994 by Armstrong as Knowledge, Perception, Regulation, Research, Value, Skill- Interaction. Determining above mentioned basic learning areas and behaviors are important in designing the evaluation tools and simplifying the evaluation process. Knowing the dimensions of learning after a teaching period is essential and it can be done by making a classification. It is both essential and compulsory. In assessment process, using different assessment techniques and tools can be useful in terms of catching students' attention. Because, according to Akyol

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(2001), it is impossible to teach by using a single teaching method because of learning differences. This rule is true in assessment. It is not possible to assess and evaluate everyone's success with a single method. In visual arts education, generally assessment is done on the artistic work done by the student. Assessed features are like this: the technique, aesthetic quality of the work, colors, shapes, and their relations with each other. Not only the creative work but also the child's performance is evaluated. In other words, the product and the development in the process cannot be ignored. However, unless those evaluations are not planned finely, assessing the student's ability depends on a subjective evaluation. People who assess school curriculum and primary and secondary school teachers highlight the objectivism. For example Hoepfner (1984) states that visual arts programs need defined tests in assessment and evaluation. In addition to him, Frenchtling (1991) mentions the importance of using standard tests besides performance assessment. When cognitive researchers (Arheim 1969, Gardner 1982) consider the relationship between learning and cognitive development, they emphasize the need for objective assessment (Akt; Bezruczko 1992). However, art educators believe the necessity of assessing the student's performance in accordance with the aims of visual arts education. Standardized norm based tests are not found appropriate for art assessment (Bezruczko 1992, Dorn et.al 2004). On the other hand, multiple choice, questions with short answers, true-false, matching tests can provide reliable results in testing the concepts and the information. In terms of art, It includes information areas; such as information behavior, term (word and concept) knowledge, rules, methods, classifications, theories, and realities (Armstrong 1994). However, behaviors related with conception and comprehension (analysis and evaluation) abilities can be evaluated via tests supported with visuals. Student can define and solve the differences, identify the hypothesis in the creation of work of art, form cognitive inferences. All of those elements can be assessed by the help of test designs supported with visuals. Because when a person's visual thinking abilities are high, he is more prone to the high level of creativity and interpretation. For this reason, in order to feed the creativity, it is possible to use objective tests. The purpose of this study is to present a point of view on using test techniques supported with visuals and their contributions to artistic learning at Anatolian fine arts high school art workshops. The following questions are asked within this framework:

- 1- What is the affectivity of art test that is supported with visuals in terms of visual arts education?
- 2- What do the students think about the art test supported with visuals in terms of its contribution to artistic learning?

2. Method

The study group consists of 10th grade students ($f=25$) of Anatolian Fine Arts High School. The data were gathered via art tests (ATSV) that were structured with visuals and semi-structured evaluation forms that were used by students in evaluating art tests. Art tests used in the study are structured with visuals that facilitate students' comprehension of differences, style, and art discourse. In order to measure conception and comprehension, initially main factors of those skills were stated (Table 1).

Table 1: The distribution of the test substances of assessed elements in ATSV

Assessed Elements	Question Nu	Related Substances
-Knowledge of terms	1,3,10	1a,1b,1c, 3a,3b,3c, 10
-Defining visual qualities	1	1a,1b,1c,
-Analysis visual qualities	2,3,4,5,8	2a,2b,2c,3a,3b,3c,4a,4b,4c, 5.1,5.2,5.3,5.4,5.5, 8.1,8.2,8.3,8.4,
-Comparing similar and different approaches	9	9.1, 9.2, 9.3, 9.4
-Capacity to form cognitive inferences solely on the basis of visual information	6,7,10	6, 7a,7b,7c, 10
-Perceptual sensitivity to subtleties in an artwork	4,5,8,9	4a,4b,4c, 5.1,5.2,5.3,5.4,5.5, 8.1,8.2,8.3,8.4, 9.1, 9.2, 9.3, 9.4

In order to determine those factors objectively, researchers interviewed with 5 visual arts teachers in that fine arts high school. Afterwards, a test with 30 items was developed. Every item was handled in various aspects. Researchers had consulted to an expert in order to overcome the defects about the test. The last version of the test was presented to the teachers in terms of content and outlook validity. ATSV was applied to 10th grade students. The data were analyzed with descriptive statistical approach.

3. Findings

3.1. The effectiveness of art test in terms visual arts education

The content and outlook validity of the test was determined by asking to those 5 teachers who had been educated in that field. Findings;

Evaluating the effectiveness of ATSV in terms of content validity: It can be said that the content validity of the prepared test is sufficient in terms of measuring all of the acquisition of the target unit at the same time. This evidence was supported by 5 visual arts teachers who examined the questions asked in the scale.

Evaluating the effectiveness of ATSV in terms of outlook validity: 5 visual arts teachers agreed on the idea that the test is a kind of test that belongs to an art workshop class. It means that this test is valid in terms of its appearance.

In descriptive statistics calculations, 1 point was given to each question. The average point of the sample group is 23.6, mean value is 24, the lowest point is 16, the highest point is 28. in ATSV, student's achievement level is %78.6.

Question 2, given in appendices 1, was answered correctly by almost all of the students who had participated in the study. Therefore, this question does not have a selective feature because of being easy. On the other hand, when response distributions of question 6 were analyzed, a balanced distribution can be seen. In frequency distribution of the 3rd option of the fifth question, it is seen that almost half of the students have focused on the other answer. These two questions and the 3rd option of the fifth question represent the difficulties of preparing a test.

3.2. Students' point of views about the art test in terms of their contribution to artistic learning.

In the study, Findings (ATSV) that were obtained with visuals and semi-structured evaluation forms that were used by students in evaluating art tests were given Table 2.

Table 2: Students' point of views about the art test in terms of their contribution to artistic learning.

1- What do you think about the benefits of art test ?(ÇS)	f	%
-enabling a person to analyze the work of art	18	72
-making comparisons between works of art	23	92
-testing the information via visuals	22	88
-learning art concepts	20	80
-analyzing artistic styles	15	60
-gaining technical information	6	24
<i>If you want to mention more, write here: it is not like a test. It is for teaching. It is useful and it can be used occasionally. Sometimes it is difficult to show our knowledge in practice process. It is good to show what we know. It is effective to show us the level of our information.....</i>	7	28
2- What do you think about the test questions in terms of learning? (ÇS)	f	%
- thought provoking	23	92
-different from the common tests	25	100
- educational	23	92
- teaching some specific information	2	8
-opportunity for alternative answers	10	40
<i>If you want to mention more, write here: questions are easy to understand. We are expected to see and answer. For this reason, it is a good practice. I couldn't understand clearly because it is completely different. .</i>	3	12
3- What aspects do you think the questions evaluate you? (ÇS)	f	%
-giving importance to art	4	16

-critical thinking	8	32
-associating with the context (environment)	1	4
-looking for innovative solutions	8	32
-gaining the ability to use tools	-	-
-differentiating similarities and differences	24	96
-having visual experience	25	100
-comparing similar and different approaches	20	80
-thinking about the theme of the art work	4	16
-Technical ability	-	-
- If you want to mention more, write here: It is not good for analyzing our drawing ability, but it is good for analyzing our seeing and differentiating ability. It is useful in terms of showing us how to look at artists' works. ...	4	16

When Table 2 has studied, it can be seen that students have presented positive views about the benefits of GDST. They found it useful in terms of making comparisons between works of art (%92), testing the knowledge via visuals (%80), analyzing works of art(%72). They think that ATSV is a kind of learning method rather than a testing approach. According to students' point of view, applied test is different from a multiple-choice test (%100) and questions are thought-provoking and educational (%92). They have mentioned that ATSV have helped them evaluate themselves in gaining visual experience (%100), differentiating similarities and differences (%96), and comparing similar and different approaches (%80). The answers given to open ended questions are like this: *It was not enough to develop our drawing ability, but it is good to develop our seeing and analyzing ability. It was useful for us because we learnt how to look at artists' works. It was not like a test, it was something to teach. It was useful, and it can be used sometimes. We sometimes couldn't show what we know during practice period, it was nice to help us show what we know. Finally it showed us what we know.* Depending on their answers, they think that it is something educational, not just a testing what they know students were satisfied with. Being assessed in comprehension and conception issues except for ability required issues.. In this sense, it can be said that art test that is supported with visuals is effective in evaluating complicated cognitive and perceptual judgments.

4. Conclusion and Suggestions

The main purpose of the study (assessment) is to state what and how much students have learned from in-class activities. Assessment procedures are necessary in order determine how much students have learned. Assessment (evaluation) process includes determining what will be assessed and the tool that will be the best. Although this process is quite clear for other disciplines, it becomes complicated in art education. It stems from the subjective structure of art. However, it is compulsory to assess students' knowledge and acquisition in art education too. For this reason, it is essential to develop techniques that will guide teachers in assessing student's ability and information level without giving harm to child's subjectivity.

This study has focused on evaluating student's information level rather than evaluating his ability level related to practice. Therefore, it is aimed to measure students' information level about art and culture, his level in describing art concepts in a written form, and his strengths in analyzing process. Findings suggest that ATSV has assessed student's concept knowledge, analyzing and defining visual qualities, having cognitive inferences depending on the information gained through comparison, and evaluating aesthetic arrangements in the work of art in terms of perceptual sensitivity. Therefore, it can be said that the applied art test will be a good guide for teachers in learning, daily in-class activities, and learning errors. It will be useful to use this art test to help students understand fictional variety in works of art, measure complicated cognitive and perceptual justifications. In this way, students would have an opportunity to feel the success in different behavior categories. As a result, ATSV can be used to motivate students and make the class enjoyable. Furthermore, those tests can be made widespread by the help of Ministry of Education, and they can be used.

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Appendices 1: Art Test Supported by Visuals (ATSV)

Question 1: Upper part includes the diagrams (tables) of color harmony and the lower part includes the names of the harmonies. Write the letter in the blank that is in front of the name and that fits to the displayed diagram.



- _____ Analogous color harmony
- _____ Contrast color harmony
- _____ Monochromatic color harmony
- _____ Cromatic color harmony

Question 2: Upper part includes the diagrams of color harmony and the lower part includes the works of art. Write the suitable letter in the blank that is in front of the name.



Question 3: Upper part includes the works of art and the lower part has the techniques that are used to provide depth in the painting. Write the letter in the blank that is in front of the name.



- _____ Depth with atmosphere perspective
- _____ Depth with single-point perspective
- _____ Depth with the use of different sizes shapes
- _____ Depth with two-point perspective

Question 4: Upper part includes works of art, and the lower part includes art elements that are used in arranging the painting. Write the letter in the blank that corresponds with the work of art.



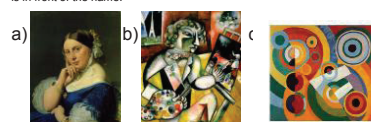
- _____ Bright color, repetitive shapes,
- _____ Contrast color, depth
- _____ Vertical movement, the use of texture
- _____ Geometric shapes, neutral color

Question 5: Examine the arrangement elements and principles that are seen in this work of art. (Choose only one number among the others.)



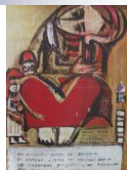
- | | |
|-------------------------------------|------------------------------------|
| 1 _____ Symmetric Balance | _____ Asymmetric Balance |
| 2 _____ Use of limited color | _____ Use of variety colors |
| 3 _____ Repetition of variety shape | _____ Repetition of the same shape |
| 4 _____ Vertical a position | _____ Moving a posture |
| 5 _____ Linear expression | _____ The expression with stain |

Question 7: The upper part includes the works of art, and the lower part includes the names of art theories. Write the letter in the blank that is in front of the name.



- _____ Expressionist theory of art. Because _____
- _____ Formalist theory of art. Because _____
- _____ Functional theory of art. Because _____
- _____ Reflective theory of art. Because _____

Question 8: Study the artistic arrangement elements and principles in this work of art. (Circle only one option among each number).



- | | |
|------------------------------|---------------------------------|
| 1 _____ Symmetric Balance | _____ Asymmetric Balance |
| 2 _____ Use of limited color | _____ Use of variety colors |
| 3 _____ Apparent contours | _____ Apparent light and shadow |
| 4 _____ Dramatic pose | _____ Moving a posture |

Question 9: Both of the paintings belong to two Turkish artists. Study (examine) those works of art. Which features do those two paintings share? (Circle the appropriate one).



Eren Eyipoğlu - Pazara Giden Kızı



Eren Eyipoğlu - Pazara Giden Kızı

- | | |
|-----------------------------------|-------------------------------|
| _____ Similar to the color scheme | _____ Symmetric composition |
| _____ The theme of topicality | _____ Repetition of shapes |
| _____ Analogous color harmony | _____ Geometric appearance |
| _____ Use of effective tissue | _____ Dominant organic shapes |

Question 10: Look at the visuals. Which type of line gives the effect of calmness and recession? Write the most appropriate one.



- a) Thickening, thinning lines
- b) Parallel lines
- c) Diagonal lines of intersecting each other
- d) Curved lines
- e) Circular lines